WHAT IS CLAIMED IS:

1. A moving apparatus comprising:

a first actuator having a movable element and a stator; and

a second actuator which drives said stator,

wherein said second actuator drives said stator in a direction to suppress rotation of said stator which accompanies movement of said movable element.

2. The apparatus according to claim 1, further comprising a feed forward compensator which controls said second actuator on the basis of a signal supplied to said first actuator or a physical quantity of movable element.

3. The apparatus according to claim 2, further comprising a compensator which controls said second actuator on the basis of an acceleration of said movable element.

4. The apparatus according to claim 3, wherein a target acceleration is used as the acceleration of said movable element.

5. The apparatus according to claim 3, wherein an actual acceleration measured by a measurement unit is used as the acceleration of said movable element.

6. The apparatus according to claim 2, wherein the signal includes a manipulated variable with which said first actuator is operated.

7. The apparatus according to claim 2, wherein a

gain of said compensator is determined in accordance with a distance between a power point of said movable element in a predetermined direction and a barycenter of said stator when said movable element is driven by said first actuator.

8. The apparatus according to claim 1, wherein said stator absorbs a reaction force that acts on said stator when said movable element is driven by said first actuator.

9. An exposure apparatus comprising:

an optical system which projects exposure light to be irradiated to a master having a pattern onto a substrate;

a stage which can move while holding the substrate or the master;

a first actuator having a movable element and a stator, said movable element being connected to said stage; and

a second actuator which drives said stator,

wherein said second actuator drives said stator in a direction to suppress rotation of said stator which accompanies movement of said movable element.

10. A semiconductor device manufacturing method comprising:

an applying step of applying a photosensitive material on a substrate;

an exposure step of transferring a pattern onto

the substrate, applied with the photosensitive material in the applying step, by utilizing the exposure apparatus according to claim 9; and

a developing step of developing the photosensitive material on the substrate where the pattern has been transferred in the exposure step.